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ABSTRACT

A study was conducted at Jefferson College, Hillsboro Campus, in Missouri, to determine the relationship between the characteristics of successful Learning Center students and their questionnaire responses on an entry survey and their final course grades. Jefferson College is a two-year, open admissions community college, and the college's Learning Center provides developmental preparation in a self-paced, competency-based setting for low scorers on an entry course placement test and for nontraditional students seeking refresher course work. The study population included 382 students, who responded to questions regarding sex, race, age, high school attended and degree received, county of residence, prior college experience, financial aid awards, marital status, living accommodations, household income, family education, employment status, and learning center courses. Survey responses were correlated with end-of-term course grades. The Chi-squared Automatic Interaction Detection (CHAID) statistical procedure was employed to derive profiles of successful students by performing a "tree" analysis of best predictors. Nine questionnaire items (i.e., gender, age, year of last college experience, marital status, living accommodations, household income, mother's education, primary educational goal, and determination to be successful) were found to be significantly associated with course grades of A, B, or Incomplete versus Withdrawn. Ten items (i.e., gender, age group, year of last college experience, marital status, living accommodations, household income, mother's education, father's education, spouse's education, and primary educational goal) were significantly associated with a final course grade of A or B. CHAID analysis revealed that the variable age group (22 or older) is the best predictor of success. Based on this information the Learning Center staff diversified formats for remedial course work to increase success rates of younger students. An addendum charts program changes and resulting positive trends. (KP)

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Characteristics of Successful Learning Center Students

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Abstract

Characteristics of successful Learning Center students at the Jefferson College Hillsboro Campus for the Fall, 1992, term were associated with questionnaire responses on an entry survey and the final course grades. The importance of this study is twofold. First, the findings are being utilized in the institutional planning process for enhancing student outcomes. The delivery of services in the Learning Center are being modified to enhance the educational outcomes of less successful students. Secondly, the methodology used in this study represents an improvement in the analysis of categorical data and has wide applicability beyond this institutional study. The Chi-squared Automatic Interaction Detection (CHAID) statistical procedure derives a focused profile of the student groups investigated by performing a "tree" analysis of the best predictors. Institution intervention strategies can then be appropriately applied. Jefferson College is a two-year, open admissions, community college. The Learning Center provides developmental preparation in a self-paced, competency-based setting for low scorers on a entry course placement test or for nontraditional students seeking refresher course work.

Using Chi-square and CHAID statistical procedures, nine questionnaire items were found to be significantly associated with course grades of A, B, or Incomplete versus Withdrawn, and ten items were significantly associated with the more restrictive definition of a successful outcome - final course grade of A or B versus an Incomplete or Withdrawn. The variable age group (22 years of age or older) was determined to be the most significant predictor of success. Profiles of successful and unsuccessful students are derived. These findings corroborate previous institutional studies of successful students in Learning Center courses and confirm the conventional wisdom about the types of students who are more apt to benefit from the Learning Center environment.

Characteristics of Successful Learning Center Students

Introduction

The retention and academic success of students at institutions of higher education have become even higher priorities in these times of reduced budgets and performance-based funding formulas. Knowledge of the predictors of student retention and success are still far from certain. Institutional research contributions can have a major impact on institutional effectiveness and efficiency.

Related Literature

Earlier theoretical models of student retention and success have focused primarily on four year institutions. Tinto's model (1975), emphasizing the interaction between the student's commitment to the institution and his\her own educational goal, is perhaps the most widely referenced. Pascarella (1980) noted the interplay of students' background characteristics with institutional factors and their indirect effect on informal contact with faculty which, in turn, influences educational outcomes. But both these models rely heavily on experiences with students in four year institutions. Bean and Metzner (1986) recognized that environmental variables become increasingly important as a student body becomes more nontraditional and commuter oriented. Successful completion for community college students is often influenced by unfolding living conditions, family

responsibilities, and the like. Webb (1988) utilized demographic data from the ASSET entering student planning form to identify variables that could assist two-year colleges with retention strategies. Being in a vocational education program, being primarily a day student, having an educational goal and planning to obtain a two-year certificate or degree, and being certain of an academic major were among his pertinent findings.

Description of the Learning Center

At Jefferson College, students who need to improve their basic academic skills prior to enrollment in college level course work can avail themselves to developmental course work in the Learning Center. The Learning Center offers fifteen English, mathematics, and study skill courses for this purpose. The Learning Center espouses the developmental education model in which the course objectives are competency-based and students work in a self-paced, independent study environment. Teachers are available to provide one-on-one consultation with students as needs arise and to monitor completion of course milestones. Students work at their own pace and often take more than one semester to master the competencies and successfully complete the course. Two semesters, however, is the maximum time limit for course completion under normal conditions.

A screening instrument, the Assessment of

Successful Student Entry and Transfer (ASSET), is used for placement in Learning Center courses. ASSET testing is required for all degree-seeking students or those who intend to take an English composition or college level mathematics course. Placement in Learning Center courses is mandatory for any student with the educational intentions mentioned above who scores below the designated criteria on the ASSET. Learning Center courses are also suitable for returning students who have been out of school a number of years or who otherwise feel a need for "refresher" course work.

During the first week of enrollment in a Learning Center course, students are asked to complete a questionnaire called the "Population Survey" (see Appendix). The questionnaire responses are then examined to identify predictors of student success and students who are at-risk of failing or withdrawing.

Purpose of the Study

It was hypothesized that student motivation or expectations may be common threads running through the variables found to be related to success. To test this hypothesis, the questionnaire was revised and four additional questions were added: 1) What is your primary reason for taking this course?; 2) What is your educational goal?; 3) How well do you expect to do in this course?; and 4) How determined are you to succeed?

Second, an innovative statistical technique, Chi-

squared Automatic Interaction Detection (CHAID), was employed to go beyond the simple identification of significant demographic variables. CHAID is a technique for identifying significant segments of related predictor variables for categorical data. With this technique, meaningful profiles can be derived for describing the sample under study.

This purpose of this study, then, is to derive a profile(s) of successful Learning Center students using the enhanced population survey. The findings will then be used to improve teaching and student success.

Method

Population survey records of Learning Center students at the Hillsboro campus completed at the beginning of the Fall 1992 term were matched with end of term course grade records to produce a cohort for analysis. Although the college also provides Learning Center courses at its smaller attendance center in Arnold, a previous study had determined that the passing rates for students at the two locations did not differ significantly. There were 382 cases available for the study - 193 females, 127 males, and 62 with missing gender data. In this cohort, 192 were less than 22 years old and 190 were 22 years old or older; 97.4% of the cases were white; and 43.5% indicated that they had previously attended college. The first two tables below depict the gender and age data. Grades recorded for this group for the Fall term were 77 A's,

14 B's, 94 I's (incomplete), and 197 W's (withdrawn). The course grade distribution is presented in Table 3.

Table 1. Gender

Label	Frequency	Per Cent
Male	127	33.2
Female	193	50.5
Missing Data	62	16.2
Total	382	100.0

Table 2. Age Group

Label	Frequency	Per Cent
Under 22	192	50.3
22 - 30	85	22.3
31-45	95	24.9
46 +	10	2.6
Total	382	100.0

Table 3. Course Grades Received

Label	Frequency	Per Cent
A	77	20.2
B	14	3.7
I	94	24.6
W	197	51.6
Total	382	100.0

Two dummy variables were constructed for grouping course outcomes. The first was PorW in which grades of A, B, and I were labeled "P" (pass), and grades of W were labeled "W" (withdrawal). The second dummy variable was PorWI in which only the grades of A and B were labeled "P," and the grades of W and I were labeled "W."

Table 4. Variable PorW (Pass or Incomplete vs. Withdrawn)

Label	Frequency	Per Cent
A, B, or I (Pass)	185	48.4
Withdraw	197	51.6
Total	382	100.0

Table 5. Variable PorWI (Pass vs. Withdrawn or Incomplete)

Label	Frequency	Per Cent
A, B (Pass)	91	23.8
I, W	291	76.2
Total	382	100.0

In this way, students receiving an "I" (incomplete) can be considered in the passing outcome category or in the drop-out outcome category. It is important to consider "Incompletes" both ways since it is not certain if they will return to complete the Learning Center course, enroll in a college credit course, or drop-out and not return. A previous study of Learning Center students in the Fall of 1991 revealed that 21.4% of Learning Center students who received a grade of incomplete reenroll and complete a learning Center or Adult Basic Education course, and an additional 12.2% enroll for a college credit course. It can be estimated, therefore, that approximately one-third of the students receiving a grade of incomplete during their first term are not college drop-outs.

The SPSS-PC+ Crosstabs procedure (Norusis, 1990) was utilized to investigate the relationship of each

questionnaire item with each of the two dummy outcome variables, PorW and PorWI. Pearson Chi-Square statistics were calculated to determine whether significant associations existed between the two outcome categories and the questionnaire response items. Next, a CHAID (Chi-Squared Automatic Interaction Detection) analysis as described by Kass (1980) and Magidson (1982, 1989) was utilized to identify the significant segments and predictors of the outcome categories.

To further describe the sample cases at this point, the distributions of three additional items from the questionnaire that were found to be significant segments in the subsequent CHAID analysis are presented below.

Table 6. Hours Employed

Label	Frequency	Per Cent
0 Hrs/Wk	120	31.4
1-10 Hrs/Wk	24	6.3
11-25 Hrs/Wk	72	18.8
26-30 Hrs/Wk	54	14.1
31-40 Hrs/Wk	75	19.6
40 + Hrs\Wk	24	6.3
Missing Data	13	3.4
Total	382	100.0

Table 7. Stated Educational Goal

Label	Frequency	Per Cent
Personal Interest	32	8.4
Improve Basic Skills	165	43.2
Certificate < 2 Yrs.	2	0.5
2 Yr. Degree or Cert.	85	22.3
2 Yr. Degree & Transfer	80	20.9
Other Reason	9	2.4
Missing Data	9	2.4
Total	382	100.0

Table 8. Stated Expectations of Success

Label	Frequency	Per Cent
May Not Complete	0	0.0
Difficult but Pass	20	5.2
Pass - Average	91	23.8
Pass with "B"	179	46.9
Pass with "A"	82	21.5
Missing Data	10	2.6
Total	382	100.0

Limitations

The population surveys for some Learning Center students were not available. Consequently, a few cases were excluded from the original cohort due to missing data. Of the 382 cases examined, 67 were enrolled in more than one class. These 67 students accounted for 191, or exactly one-half of the total cases. There were 258 unique students in the cohort of 382 cases.

For the purposes of this study, all 382 cases were included. Although this means that some survey data were used more than once, it was the preferable way of handling the data since students who were enrolled in

more than one course often obtained different outcomes in different courses. A student may have withdrawn from one course, passed another, and received an incomplete from a third course. Since a student's course outcomes varied in most cases, it was more important to consider all the available data related to the outcome categories rather than artificially assigning the data to one specific outcome category - or not using the data at all.

Findings

Contingency tables were constructed for each of the questionnaire items pairing the two outcome categories, PorW (A,B, or Incomplete versus Withdrawn) and PorWI (A, B versus Incomplete or Withdrawn) with each of the independent variables. Nine of the questionnaire items were found to be significantly associated beyond the 0.05 level of confidence with the outcome variable PorW. Ten items were found to be significantly associated with the more restrictive categorical definition of outcome success, PorWI. A summary of the variables and their level of significance is presented in Table 1 and Table 2.

Table 9. Outcome Category: PorW[1]

Variable	Chi-Square Value	df	Significance Level
Gender	15.62	1	< .001 **
Age Group	26.36	3	< .001 **
Last College Experience	8.87	2	.012 *
Marital Status	26.60	6	< .001 **
Living Accommodations	18.69	5	.002 **
Household Income	14.64	7	.041 *
Mother's Education	22.58	6	< .001 **
Primary Educational Goal	30.12	5	< .001 **
Determination to be Successful	7.30	2	.026 *

1. PORW = Pass (A, B, or Incomplete) versus Withdrawn

* Significant at .05 level of confidence
** Significant at .01 level of confidence

Table 10. Outcome Category: PorWI[1]

Variable	Chi-Square Value	df	Significance Level
Gender	6.24	1	.012 *
Age Group	34.75	3	< .001 **
Last College Experience	11.03	2	.004 **
Marital Status	37.24	6	< .001 **
Living Accommodations	30.08	5	< .001 **
Household Income	19.44	7	.007 **
Mother's Education	26.87	6	< .001 **
Father's Education	16.71	6	.010 **
Spouse's Education	14.30	5	.014 *
Primary Educational Goal	15.75	5	.008 **

1. PORWI = Pass (A, or B) versus Incomplete or Withdrawn

* Significant at .05 level of confidence
** Significant at .01 level of confidence

Eight of the significant relationships in each table involved the same independent variables. Those variables are gender (females are more likely to have favorable outcomes); agegroup (students 22 years or older are more likely to succeed); last college experience (students out of college for over five years

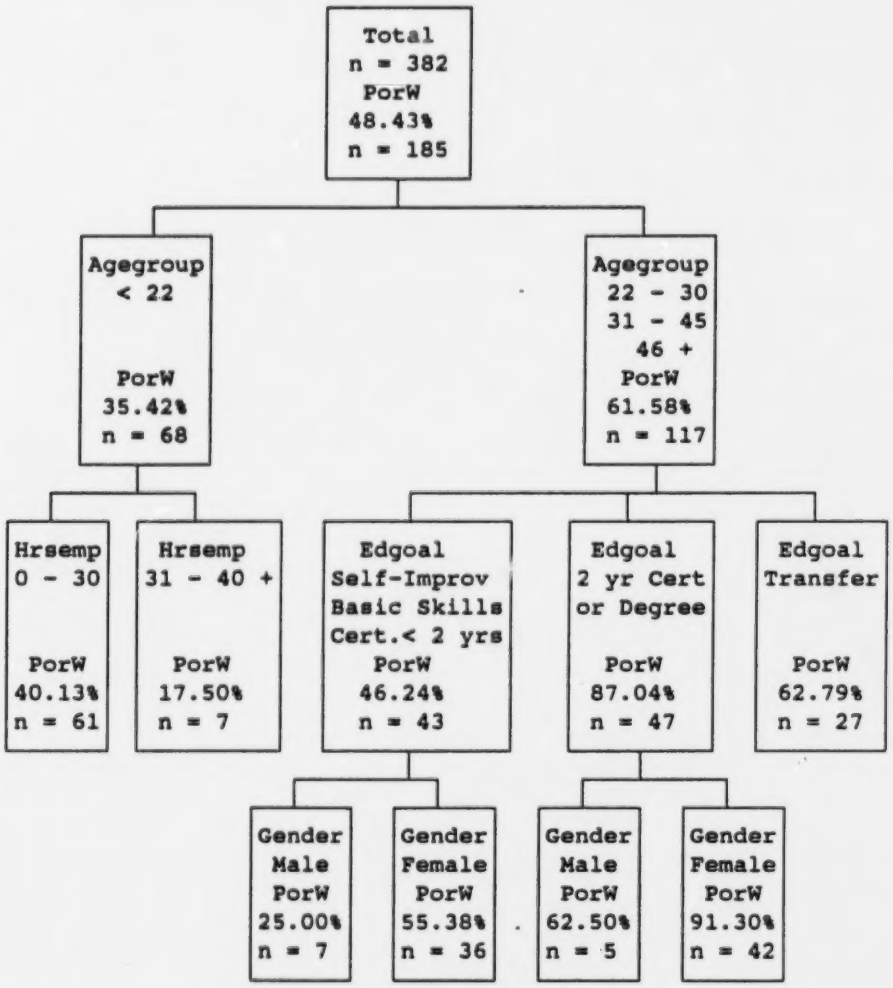
have a higher probability of success); marital status (married students or divorced students with children are more successful); living accommodations (students living at home with parents had the lowest success rate); household income (students in the $5,000 to $14,999 ranges have the highest success rates); mother's educational level (highest success rates are found for students whose mothers' educational attainment was only eighth grade); and primary educational goal (highest success rates are for those who indicate they want to earn a two year degree/certificate or earn a two year degree and transfer). The item primary educational goal was one of the four new items added to assess the influence of student motivation on student outcomes.

One additional variable was significant for the PorW group - determination to be successful (very determined students are more likely to be successful). Self-reported determination to be successful was also one of the four new questions added to the survey form to measure student motivation. Two additional variables were significant for the PorWI group - father's education level and spouse's education level (the higher these educational levels, the more likely the students are to be successful).

Next, in order to extend the search and identify significant predictor combinations, the Chi-Square Automatic Interaction Detection (CHAID) technique was

utilized. The CHAID analysis first identifies the best predictor of the successful Learning Center students from the questionnaire variables. Then, it statistically finds and links that variable's best predictor to it. It continues to build a "tree" of best predictors until statistical significance is no longer attainable (see Figure 1 below). In this manner, profiles of successful students can be derived from the pool of questionnaire items. The following figure and profile statements describe successful Learning Center students who received an A, B, or Incomplete versus Withdrawal (dependent variable PorW).

Figure 1. Learning Center Student Outcomes: Pass or W



Legend: % = Per Cent of Students in the Cell Receiving Grades of A, B, or Incomplete.
Hrsemp = Hours Employed Outside the Home
Edgoal = Primary Educational Goal

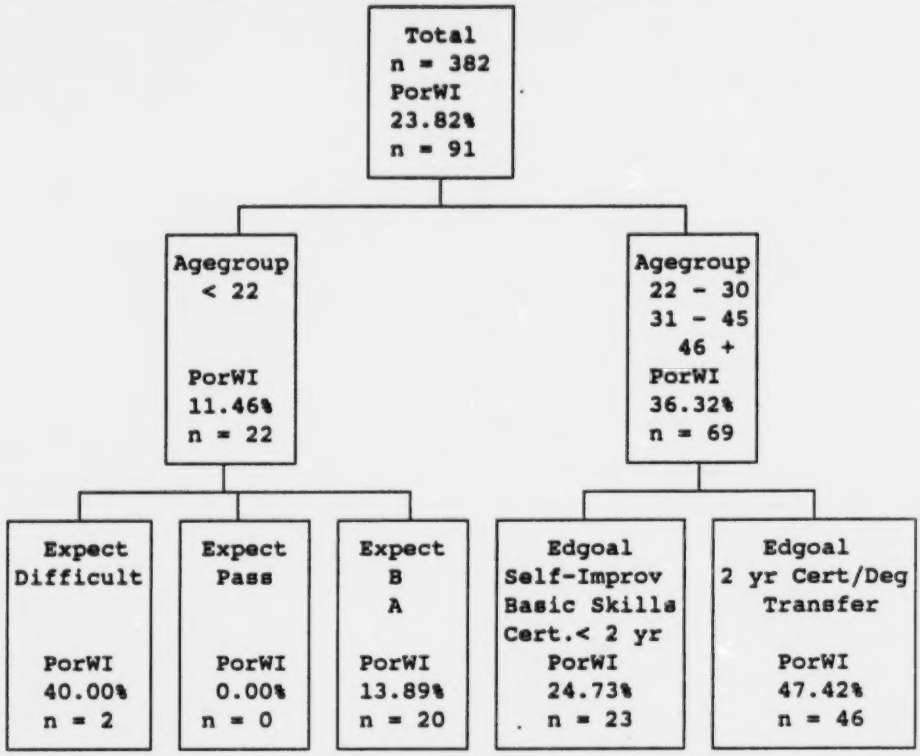
In this first analysis, the outcome categories were designated as passing (grades of A, B, or I) or withdrawn. Of the 185 students who received grades of A, B, or I, 61 out of the 68 who are less than 22 years of age are either not working or working less than 30 hours per week. Therefore, younger students are more

apt to be successful in Learning Center courses if they are unemployed or at least working less than 30 hours per week.

Females account for 78 of the 117 (66.7%) successful students who are 22 years of age or older. Of this group, 47 of these females indicated that their educational goal was to complete a two year certificate or degree, and 36 indicated that their educational goal was self-improvement, to improve basic skills, or to earn a certificate in less than two years. Therefore, older students, particularly older females, first have a greater likelihood of success in Learning Center courses than students 22 years old or younger. And second, the older females have focused educational goals of completing their programs within two years as opposed to transferring for further education.

In the second analysis, the outcome categories were designated as Passing (grades A or B only), or Incomplete/Withdrawn. Of the 91 students who received a grade of A or B, 20 out of the 22 students who were less than 22 years of age indicated that they expected to make a grade of A or B. This suggests that a very high self-expectation of success is particularly important for younger Learning Center students.

Figure 2. Learning Center Student Outcomes: PorWI



Legend:

% = Per Cent of Students in the Cell Receiving Grades of A or B.
Expect = Expectations for Success
Edgoal = Primary Educational Goal

From the group of students 22 years or older, 69 out of 91 students received a grade of A or B. Also, two-thirds (46) of these older students indicated an educational goal of earning a two year certificate/degree or earning a two year degree and transferring. The remaining one-third (23) stated an educational goal of self improvement, improving basic skills, or completing a certificate in less than two years. This finding suggests that for the older students, a clear educational goal is an important

indicator of Learning Center success.

In summary, the CHAID analysis reveals that the variable "agegroup" is clearly the best predictor of success in Learning Center course work. With nearly equal numbers of students in both age groups - 192 who are less than 22 years old and 190 who are 22 years of age or older - the students who are 22 years of age or older have a much higher likelihood of being successful. For the older agegroup, 36.3% (N=69) of the students received a grade of A or B, and when grades of incomplete are included, that per cent increases to 61.6% (N=117). For the younger agegroup, the comparable figures are 11.5% (N=22) who received a grade of A or B, and 35.4% (N=68) who received a grade of A, B, or I. Older students (22 years of age or older) then, seem three times as likely to obtain a course grade of A or B, and twice as likely to obtain a course grade of A, B, or Incomplete.

Discussion

This study corroborates previous institutional findings, and adds to the understanding of student outcomes in Learning Center courses. The four significant characteristics of Learning Center students previously identified at this institution - agegroup, household income, living accommodations, and marital status - were again found to be significantly related with course outcomes. Furthermore, several other characteristics of Learning Center students were

significantly associated with course outcome: gender, primary educational goal, mother's educational level, and last college experience. Determination to succeed was also significantly associated with a successful course outcome defined as a grade of A, B, or Incomplete. Father's and spouse's educational levels were significantly associated with the more narrowly defined successful course outcome of a grade of A or B.

This study further points out the striking effect of age on successful outcome in Learning Center course work. Older students simply do better in the Learning Center, and younger students are at higher risk of dropping out. Perhaps the older student has a more significant "investment" in terms of opportunity costs, family obligations, and reality based experiences as a motivational base. Clearly, intervention strategies for younger students need to be employed. A reasonable hypothesis would be that students who are academically deficient in English and math and who are used to the regimented environment of a high school are not well-equipped to handle the independent study environment of the Learning Center. Devising structured instructional activities for younger students would be a logical strategy to increase their success.

The assertion that a student's expectations of success, internal motivation to succeed, and a focused goal may play an important role in course outcome

received support and bears further study. Specifically, two of the items - "stated educational goal" and "expectations for success" - were linked with successful outcomes in the CHAID segment analysis. The significance of the four student motivation items may have been limited by the phrasing of the questions. For instance, the ranges of responses for the questions "reason for taking a learning center course," "expectations for success," and "determination to succeed" were very restricted. For example, no one chose the response "I may not be able to complete this course," and only 5% chose the response "I expect it will be very difficult to learn the material and pass this course." Self-motivation and determination are difficult concepts to operationalize in a measurable way. This study points to a need to further revise the motivational questions to maximize the usefulness of the data and to achieve greater discrimination between the outcome groups.

Recommendations

It is suggested that Learning Center staff and divisional staff review and utilize these findings for advising, placement, and program planning. It would appear that a diversification of formats for developmental and remedial course work would increase the success rates of younger students.

Secondly, further refinement of the survey questions would aid in the continued search for

stronger predictors of success, and thus provide factual data for future educational program modifications. For instance, some of the questionnaire items have face validity but, in fact, do not provide sufficient discrimination. On item, "How Determined Are You to Succeed?" is heavily skewed with "very determined" responses. Moreover, some items which do not significantly differentiate between outcome groups can be eliminated and others which will increase the understanding of student motivation and expectations can be added.

ADDENDUM

Use of the Findings

Under the leadership of George Podorski, the Coordinator of the Learning Center, the findings were thoroughly reviewed and modifications to the Learning Center program were implemented for the Fall 1993 school term. To pilot program changes, a one-hour structured class was added each week to the six courses accounting for the highest enrollment: Basic Theme, Basic Grammar and Punctuation, Reading Improvement, Rapid Reading, Basic Math, and Basic Algebra. All students in these courses verbally commit to one traditional class period each week.

During class orientation, students select a suitable class time from several options. If none are feasible, a weekly one-on-one session is arranged with the instructor. Through the structured class setting, the instructor not only teaches the lesson, but also monitors student progress through the competency-based course modules. Students who begin to fall more than one module behind are provided additional one-on-one tutoring with the instructor or with peer tutors. Student Grade Distributions from the Fall 1992 school term are compared to Fall 1993 in the following table.

Table 11. Grade Comparisons - Fall 92 and Fall 93

Course	Grades \ Per Cent of Row Total							
	A	%A	B	%B	I	%I	W	%W
Totals for Six Pilot Courses								
Fall 1993	148	20.3	45	6.2	204	27.9	333	45.6
Fall 1992	119	20.4	20	3.4	133	22.8	312	53.4
Basic Theme								
Fall 1993	17	19.3	4	4.5	20	22.7	47	53.4
Fall 1992	17	20.5	6	7.2	12	14.5	48	57.8
Grammar & Punctuation								
Fall 1993	24	23.8	17	16.8	19	18.8	41	40.6
Fall 1992	20	23.8	3	3.6	11	13.1	50	59.5
Read.Improv.								
Fall 1993	14	18.4	8	10.5	13	17.1	41	53.9
Fall 1992	21	29.2	3	4.2	10	13.9	38	52.8
Rapid Reading								
Fall 1993	6	26.1	2	8.7	6	26.1	9	39.1
Fall 1992	3	15.0	0	0.0	5	25.0	12	60.0
Basic Math								
Fall 1993	49	22.3	6	2.7	80	36.4	85	38.6
Fall 1992	34	20.5	1	0.6	59	35.5	72	43.4
Basic Algebra								
Fall 1993	38	17.1	8	3.6	66	29.7	110	49.5
Fall 1992	24	15.1	7	4.4	36	22.6	92	57.9

Although one semester is not sufficient to validate the effectiveness of the program changes, positive trends are apparent. First, in the Fall 1993 term, there was a 2.7% increase in course completers (i.e., grades of "A" or "B") in six pilot courses. Second, there was a 5.1% increase in students who were retained for the subsequent school term by virtue of their having received an "incomplete" grade. These two trends resulted in a 7.8% decrease in students who withdrew from the pilot courses. This is a substantial change especially in light of the increased enrollment

in Fall 1993 (n = 730) as compared to Fall 1992 (n = 584) for the six courses.

In conclusion, the addition of a required weekly class hour of instruction has increased the completion and retention rate of students in the Learning Center. Further study is still needed to identify and profile those students helped the most by these changes. Continual program review will assure that student success rates are maximized.

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Appendix

Learning Center Population Survey

Please answer the following questions. This information will help the Learning Center faculty and staff determine future courses, programs and services.

1. Social security number:

2. Today's date:

3. Campus: (1) Hillsboro (2) Arnold

4. Term: (1) Fall 1992 (2) Spring 1993

5. Sex: (1) Male (2) Female

6 Race:
(1) Black (Non Hispanic) (2) White (Non Hispanic)
(3) American Indian or Native Alaskan (4) Asian or Pacific Islander
(5) Hispanic

7. Age: (1) Under 22 (2) 22 - 30
(3) 31 - 45 (4) 46 or over

8. Where did you attend High School?
(1) Jefferson County (2) Outside Jefferson County

9. Where do you presently reside?
(1) Jefferson County (2) Outside Jefferson County

10. Which of the following have you received?
(1) a regular high school diploma
(2) a GED Certificate

11. Have you attended college before?
(1) Yes (2) No

12. If yes, when? (1) in the last 5 years
(2) in last 10 years (3) more than 10 years ago

13. Do you receive any financial aid or scholarship award?
(1) Yes (2) No

14. Marital Status:
(1) Single (never married) (5) Widowed
(2) Married-no children (6) Divorced-no children
(3) Married-children (7) Divorced-children
(4) Separated (8) Single-children

15. Living Accommodations:
   (1) At home with parents
   (2) With spouse and children
   (3) With children along (single parent)
   (4) With children at home of parents
   (5) Share living quarters with individuals outside

16. Approximate Income of your Household:

(1) below $4,999 per year	(2) $5,000 to $9,999
(3) $10,000 to $14,999	(4) $15,000 to $19,999
(5) $20,000 to $29,999	(6) $30,000 to $39,999
(7) $40,000 to $49,000	(8) $50,000 plus

Family Education:

17. Mother	18. Father	19. Spouse	
(1)	(1)	(1)	No formal education
(2)	(2)	(2)	Some elementary
(3)	(3)	(3)	Elementary (1-8)
(4)	(4)	(4)	High School (9-12)
(5)	(5)	(5)	Junior College
(6)	(6)	(6)	College (degree)
(7)	(7)	(7)	Post graduate work

20. Hours employed outside the home:

(1) 0 hrs/wk	(2) 1-10 hrs/wk
(3) 11-25 hrs/wk	(4) 26-30 hrs/wk
(5) 31-40 hrs/wk	(6) 40 + hrs/wk

21. What Learning Center courses are you taking:
   (check one or more)
   (1) Reading Strategies
   (2) Reading Improvement
   (3) Rapid Reading
   (4) Fundamentals of Writing
   (5) Basic Theme
   (6) Grammar/Punctuation (2600)
   (7) Advanced Grammar/Punctuation (3200)
   (8) Spelling
   (9) Basic Study Skills
   (10) College Vocabulary Skills
   (11) Content Area Reading - Mathematics/Business
   (12) Content Area Reading - Social Sciences/Sciences
   (13) Basic Math
   (14) Basic Algebra
   (15) Geometry

22. What is the PRIMARY reason you enrolled in Learning Center course(s)? (Check the statement which best describes your primary reason.)
   (1) Referred by a college counselor, advisor or faculty member
   (2) Suggested by ASSET test results
   (3) Suggestion from a student, friend or family member who has previously taken a Learning Center course
   (4) Career advancement or career change
   (5) As a review because I have not enrolled in college classes for several years
   (6) Bored/need new interest, friends, ideas
   (7) Other Reason

23. What is your PRIMARY educational goal? (Check the one which best describes your educational goal.)
   (1) I am taking this class for personal interest or self-improvement only.
   (2) I need to improve my basic skills (reading, writing or math) in order to take further college courses.
   (3) I intend to complete a certificate program of less than two years.
   (4) I intend to complete a two-year certificate or degree program.
   (5) I intend to complete a two-year degree program and transfer to a four-year institution.
   (6) Other reason.

24. Which of the following statements best describes your expectations for success in the Learning Center? (Check one.)
   (1) I may not be able to complete this course.
   (2) I expect that it will be very difficult to learn the material and pass the course.
   (3) I don't think I will be above average, but I know I can pass the course.
   (4) I expect to do better than average in this course. (i.e., make a grade of "B".)
   (5) I expect to do very well in this course. (i.e., make a grade of "A".)

25. On a 5-point scale (5 = very determined, 1 = not very determined), how determined are you to be successful in your Learning Center course(s)?